THE
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Examining the Atmosphere and Atmospheric Resource Management

What will La Niña bring?

by Bruce Boe

By now, most persons know that El Niño is the name applied to a period of warmer than average sea surface water temperatures along the equator in the Pacific Ocean west of South America. Many damaging winter weather extremes were credited by the media as having been caused by last year's El Niño, which exhibited temperature deviations warmer and more long-lasting than most.

The reality is some portions of the U.S. experience extreme winter weather every year—so it's difficult to know if El Niño was really to blame.

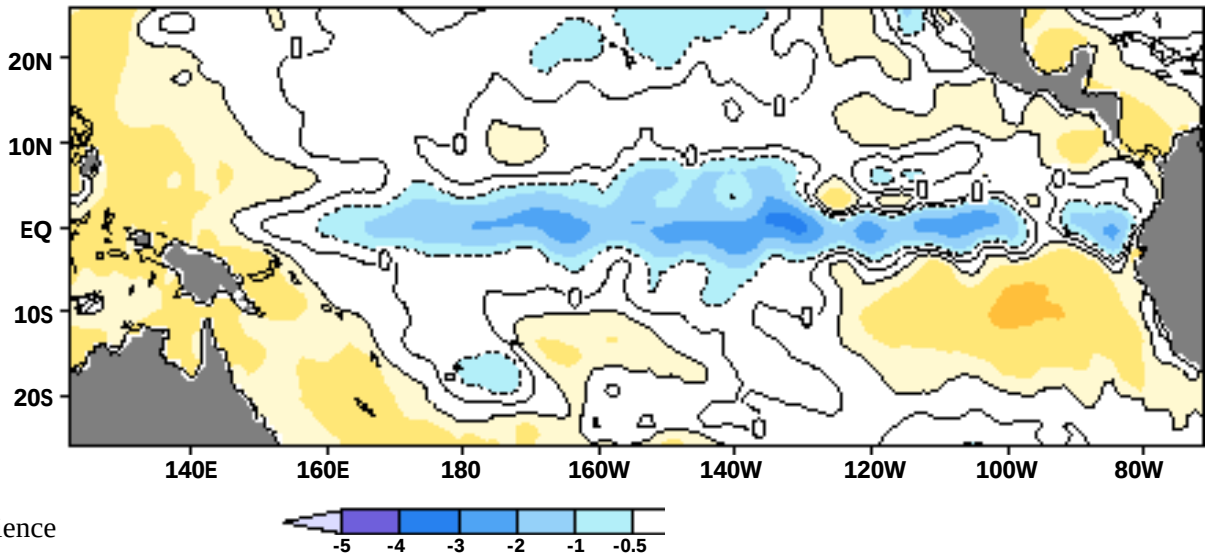
Long-range forecasts of the general weather patterns for the U.S. were unusually accurate, especially those for the northern Great Plains. We were told that El Niño would mean an unusually mild and drier winter, and for most in North Dakota, it was just that. At least, it seemed that way after the record-breaking winter of 1996-97.

Now, El Niño has faded, and the equatorial sea surface temperatures in the Pacific have fallen below average, the condition we know as La Niña. This oscillation from warmer to cooler temperatures is normal, and is called the El Niño Southern Oscillation, or ENSO. While we know a lot about ENSO, we know more about the El Niño side, as the warmer temperatures have had a debilitating effect on the South American fishing industry for hundreds of years, making it more noticeable for economic reasons.

After last winter's accurate weather forecast with an ongoing El Niño, many of us are wondering how we'll do this winter with La Niña in progress.

As of early October, the long-range forecast models projected a slightly cooler winter than normal, more so in the eastern portion of the state. The precipitation projections include modestly greater precipitation in early winter (December-January), becoming slightly drier than average in late winter and early spring (March-April).

A word of caution though. . . we've had more experience with El Niño events than La Niñas, so the long-range forecasts ought to be viewed with less confidence. In any event, it will be interesting to see if the accuracy of the long-range forecasts for the northern Great Plains can match last year's! ■



Sea surface temperature °C) anomaly as of September 30, 1998. Source: National Center for Environmental Prediction, National Oceanic and Atmospheric Administration.)

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